

# A.C.O.S. BULLETIN

NUMBER TWELVE - DECEMBER 1977:

Registered as a Publication

Category - B.

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journal of  
AUSTRALIAN CO-ORDINATION SECTION,  
CENTRE FOR UFO STUDIES

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AUSTRALIA

## DEFINITION

We define the UFO as the reported perception of an object or light, seen in the sky or upon the land, the appearance, trajectory, and general dynamic and luminescent behaviour of which do not suggest a logical, conventional explanation and which is not only mystifying to the original percipients but remains unidentified after close scrutiny of all available evidence by persons who are technically capable of making a common sense identification if one is possible.

Dr. J. Allen Hynek

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Editorial.

by H. Griesberg & D. Seargent.

Due to circumstances beyond our control, this issue is slightly late. We hope that its contents make up for this delay.

As we come to the close of 1977, as pretty well everyone is aware, 1977 marked not only the third anniversary of ACOS, but also the 25th anniversary of UFO research in Australia. During 1977, co-operation amongst the groups has been "woven" even tighter, and we are confident that in 1978, this will become even tighter, not only between ACOS and the Australian groups, but between the groups themselves.

Although 1977 was a fairly quite year UFO-wise, perhaps with the Columbia produced motion picture "Close Encounters of the third kind", public awareness of UFOs will increase dramatically, and we should have a record year with sighting reports, possibly not only with current sightings, but also with old cases being reported. Lets hope so anyway, especially the Close Encounter cases. (See story this issue re "CE 3").

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Editorial

by Dr. J. Allen Hynek

The news, telling of the creation in France of GEPAN, (this issue) an official scientific body for the serious study of the UFO phenomenon, has a much deeper significance than at first meets the eye. First, it will be headed by Dr. Claude Poher, who is a highly-placed scientists in the French National Centre for Space Studies (which might be likened to the French version of NASA), and it will be his full-time job. He will be assisted by a sizeable and competent, paid staff. With Dr. Poher as head, it cannot possibly be "another Condon Committee".



Of great significance is that another country, France, rather than the United States, has taken the lead in a long needed and awaited serious investigation of the UFO phenomenon - a lead which SHOULD have been taken by the United States. In short, this country has lost the leadership in this endeavor to another country. It was the province of NASA to have long ago taken this necessary step but those individuals in NASA who have expressed to us a sincere interest in officially looking into it have been repeatedly thwarted by bureaucratic conservatism and lack of imagination.

We have learned from several reliable sources that the White House has requested NASA to "look into" the UFO situation and make recommendations about the extent the matter should be pursued. If a serious scientific investigation is mounted, I believe we can confidently expect that it too, would not result in "another Condon report". That is, if it is undertaken in the first place, it will be because NASA's preliminary investigation will have decided that there is something of substance in the UFO phenomenon. Let us hope that NASA and GEPAN will prove to be a co-operative and productive team.

### To Colonize the Universe?

by David Scargent.

Last Bulletin, you may remember that I spoke about the possibility of mankind colonizing other planets, and I remarked that (given the present rate of population increase) there would be sufficient people to colonize the Universe in only a very few thousand years. If we approach this problem from another point of view, the conclusion - fantastic though it may seem - appears to be confirmed.

But first, how many suitable planets are there likely to be in the universe? To answer this, we need to estimate the number of sunlike stars with earthlike worlds at just the right distance to receive sufficient heat to keep water liquid, but not enough to let it boil (a very narrow zone actually). Also, such stars will probably need to be far away from the centres of galaxies, where violent events occur and life (or planets suitable for life) are not likely to be found. Unfortunately, this eliminates about 90% of otherwise suitable stars.

Another feature will be the existence of life on the suitable planet, as vegetation is required to provide a suitable atmosphere for the support of human life. Furthermore, there appears to be only a limited range of galaxies which have suitable stars within them. Giant ellipticals seem to be composed of mainly small red stars and smaller ellipticals appear deficient in heavy elements as well, making planet formation rather unlikely (at least, for earthlike planets). On the other hand, blue irregular galaxies are mainly composed of hot blue stars and there has not been time for the synthesis of large amounts of heavy elements.

All in all, the best place for earthlike planets appears to be near yellow stars in the trailing edges of the arms of spiral galaxies. Now, how many planets are there likely to be in all the arms of all the spirals in the observable universe? In our own galaxy, there are about  $10^{10}$  stars which are broadly sunlike in nature, however, of these, about 90% appear to be either double, multiple, or have dark, sub-stellar companions which make the formation of smaller planets appear unlikely. Furthermore, about 90% of the remainder are most probably near the galactic nucleus. Thus, after this process of reduction, there seems to be about  $10^8$  stars in our galaxy physically capable of having earthlike planets. Just how many of these actually DO have earthlike planets, (i.e. a planet of the right mass, at the right distance from the star, having photosynthetic plant life and a suitable atmosphere) is not easy to determine, however, we are probably being optimistic if we assume that one in ten is suitable, i.e.  $10^7$  planets in our galaxy.

Now, in the universe at large, there is estimated to be about  $10^{11}$  galaxies, and it appears that (upon latest estimates) some 30% are spiral i.e. there should be about  $3 \times 10^{10}$  spiral galaxies in the universe, and if we assume  $10^7$  suitable planets in each one (probably an overestimate, as our own galaxy is an



unusually large spiral, and  $10^7$  is likely to be an overestimate even for it) we get  $(3 \times 10^{10}) (10^7) = 3 \times 10^{17}$  planets suitable for human colonization in the universe.

This number is an interesting one, as it is very close (in terms of orders of magnitude) to another important number in astronomy i.e. the age of the universe when this is expressed in seconds. Thus, the maximum age of the universe (the maximum time estimates since the Big Bang) is now given as up to 20,000,000,000 years, which, expressed in seconds comes out at around  $6.31 \times 10^{17}$ .

In other words, if one planet was colonized from earth (or any other single planet) every second, the job would not be complete until after a time lapse equal to the age of the entire universe!  
Does this end all speculation about colonization?  
No. Not quite.

The above assumes that the home planet is the only one active in colonization, when, in actual fact, the colonies will themselves take up colonization in a relatively short time.

In fact, if a colony of 1,000 people was planted on a suitable planet today, and if that colony expanded at the rate of terrestrial population at the present time, it would reach the present population of earth in about 700-750 years and then that planet would start planting colonies, and so on. This, of course, drastically alters the rate at which a race may colonize the universe, but by how much does this rate alter?

Let's assume that a race (assume ourselves for convenience) invents a method of hyperoptic travel and embarks upon a colonization programme of landing a colony of 1,000 people on each of 10 new planets per century - a very modest programme.

Also, let us suppose that each of these colonial planets will embark upon a similar programme after its population reaches approximately the same as the parent planet (which, we will suppose, is about the same as the earth at present i.e.  $3.65 \times 10^8$  people).

At this rate, the parent planet can "seed" 100 others during the first 1,000 years of the programme, and, furthermore, the population of the "colonies" will grow such that they will begin colonizing in a little over 700 years. At this rate, there could be over 1,000 colonized planets at the end of the first millennium.

The rapidly cumulative effect that this will have may be demonstrated by a simplified model.

Assume, as above, that each planet colonizes one planet per decade such that during the first 1,000 years only the original planet colonizes and it seeds 100 worlds, in the second millennium, each of these 100 worlds seeds 100 and so on. At this rate,  $10^{18}$  planets (more than we have estimated are actually suitable for habitation) could theoretically be colonized in a mere 9,000 years!

In actual fact (If this ever becomes actual fact), the programme will hardly go up in such neat steps and not all the planets seeded during the first millennium will be ready to send out colonies until well into the second millennium. Thus, the time is likely to be closer to 16,000 years, although, of course, a more ambitious colonization programme could speed this up considerably.

All in all then, given hyperoptic travel, it seems highly possible for a race to colonize the universe in the order of  $10^4$  years!

Following the lead of soviet astrophysicist, N.S. Kardashev, I will term such a race a "Type IV civilization" (Kardashev's classification extended to Type I - a race that is reaching the limits of its planet, Type II - a race



that is reaching its limits of its solar system, and Type III -- a race that is reaching the limits of its galaxy.)

My further Type IV represents a civilization which is reaching the ultimate Malthusian limit i.e. the limits of the universe.

I believe that such a civilization would swallow every other civilization in the Cosmos, perhaps not by conquest, but by assimilation of native races on the planets colonized.

Planets harbouring intelligent races are likely to be rather like earth (judging by the lesson of our own Solar System) although it is possible that life of some sort may exist in a hydrogen atmosphere. However, even here, life in such dense atmospheres as usually accompany a hydrogen environment is not likely to be intelligent and - even if it was - technology and (especially) space travel does not look promising in a dense cloudy atmosphere of a massive world.

Thus I doubt the possibility of a hydrogen breathing Type IV civilization co-existing with an oxygen breathing one. The chances that any Type IV civilization will be an oxygen civilization look more likely on present knowledge.

Apparently, as we do not appear to have been colonized, there can be no Type IV civilization yet. Either this implies that such civilizations are impossible after all (either because there cannot be hyperoptic travel or because intelligent life is very rare - or both) or there has not been time for one to develop. However, if such hyperoptic travel as we have been discussing is possible, and if it is discovered some day, it certainly appears that a truly universal civilization will follow in a (cosmically speaking) very short time. Indeed, the time taken for man to go from primitive clans to a Type I civilization (our present state) looks longer than that required for us to go from Type I to Type IV !

One last thought. If it is man who discovers the hyperdrive, let's hope that he develops morally quite a bit first. The thought of mankind doing to the universe what we have done to this planet is a little too much to contemplate - especially on an empty stomach !!

#### Official study into the UFO phenomenon?

The French National Centre for Space Studies (C.N.E.S., which can be compared to America's N.A.S.A.) has taken the lead in dealing with the more than a quarter of a century old problem of UFOs by the creation of an official research group for the study of the UFO phenomenon. The American Center for UFO Studies, directed by Dr. J. Allen Hynek, has been asked to co-operate in this scientific venture.

The official name for this newly created French group is G.E.P.A.N. (Groupe d'Etude des Phenomenes Aerospaciaux Non-Identifies). It is directed by Dr. Claude Poher who is head of the Scientific Systems and Projects Division of C.N.E.S. where he was active in the study of magnetohydrodynamical propulsion systems. Dr. Poher is already known to many for his own researches into the UFO phenomenon. The French group will utilize on a part-time basis members of the main government research organizations, which include the National Center for Scientific Research, the Astrophysical Institute, the National Meteorological Institute, and faculty members of several universities. The implications of this step taken by the French government are far-reaching. In particular, it points up the growing interest on an official level and recognition of the serious nature of the UFO phenomenon.

Meanwhile in the United States, as reported in the Chicago Daily News of Tuesday December 27, 1977, a reopened federal UFO probe has been rejected by the National Aeronautics and Space Administration. A White House request to reopen the government probe into UFOs was refused by NASA because such study would be "wasteful and probably unproductive". But NASA said it stands ready to analyze future "bona fide physical evidence from credible sources".



Close Encounters of the 3rd Kind - A motion picture with an impact.

As everyone by now is well aware of, Columbia's \$20m motion picture, Close Encounters of the third kind, is soon to be screened around Australia. Directed by Steven Spielberg, who also directed the block-buster JAWS, the movie is scheduled to be shown about mid-march this year.

Here, for the first time, the general public will be presented with a serious and sympathetic fictionalised treatment of the subject that concerns us. For the first time, it is expected that a comprehensive spectrum of the Australian community will become aware of the extent of the CE3 experience via the film. Prior to this, only magazines like "UFO Report", "Official UFO", and "Psychic Australian" were readily available, but certainly would not have received comprehensive Australia-wide exposure. Thus the nature of the CE3 and its attendant weirder fringe areas would not be common knowledge.

Thus, when the community at large is privy to the possible validity of the CE3 experience some of the cases of this possibly "hidden" body of "time-lapse", "abduction" and "contact" events will venture forth into the light of day. On the same hand we must be on guard for the effects of hysterical contagion. We must attempt to understand the effect that the mass media has on the data we study.

Bill Chalker, in his paper entitled "Beyond the CE3 Down Under", which was presented at UFOCON THREE at Surfer's Paradise last November, he advised that Dr. Haines, APRO consultant has already advised field investigators on this matter and Bill deemed it worthwhile and relevant to paraphrase his suggestions in full. It would be most advantageous to take special note on the following points.

Action 1. Groups should take action to contact the manager(s) of all those local theatres (initially to be screened by HOYTS) who plan to show this movie in their area. Try to obtain an agreement that you will be given the approximate attendance figures and starting and final showing dates for each theatre and each showing of this movie. This data may then be correlated (later as necessary) with the frequency of CE 3 type reports in each area.

Action 2. Investigators of each group should see this movie to become as familiar with its details as possible. Such intimate familiarity will make each subsequent investigative interviewers more sensitively aware of similarities and differences between a reported CE 3 encounter and the movie.

Action 3. During investigations of CE 3 type cases, investigators should ask, "What can you think of that is anything like the close encounter you have had?" Under no circumstances should investigators mention the name of this movie or its contents until the interview is almost over. Always let the eye witness raise the issue. Only at the end of the interview should the question be asked, 'Have you ever seen the movie "Close Encounters of the Third Kind"?' The reasons for this procedure should be self evident.

Bill Chalker goes on to say: If we can eliminate hysterical contagion and outright fraud, the remainder (if indeed any remain) would be the object of our cautious study. I emphasise the need for caution because of the experience in the United States and South America in particular. For example, hypnotic regression techniques have been applied with almost cavalier abandon, without any real conception of the shortcomings of this process.

We could be on the eve of a timely experiment in defining the nature and valid extent of the CE3 experience. We should exercise caution and an open mind in the manner we gather data for this study. If we capitalise on the opportunity presented by the imminent appearance of the film "Close Encounter of the Third kind", we can perhaps eventually provide the definitive answer to the extent and validity of the CE3 experience and its weirder fringe areas such as "contact", "time lapse" and "abduction" UFO cases.



# The Venus Strain or the Devon Bug?

by David Seargent.

Venus, queen of the twilight and nearest planet to earth was once thought to be among the most likely abodes of extraterrestrial life, however, since the advent of space exploration, she has mostly fallen from grace and is now passed off as one of the last places to find living things. After all, how could even the hardest bacteria (the toughest lifeforms known) exist on that furnace surface? And, of course, any higher lifeforms seem out of the question. But what about the cloud decks? Is it possible that Cytherian clouds harbour a microbiotic ecosystem?

Terrestrial clouds are now believed to contain vast colonies of tiny lifeforms - air-borne mites which spend their entire life in the atmosphere breeding and dying without ever coming near the ground. Is it possible that the clouds of Venus contain similar lifeforms?

In one sense, atmospheric Cytherian microbes seem more plausible than air-borne Terrestrial ones - the atmosphere of Venus is far denser than our own, more nearly approaching the conditions of terrestrial oceans.

You are, I suppose, wondering where all this is leading. Why the sudden interest in hypothetical Cytherian microbes anyway?

Well, it is just possible that Cytherian microbes are NOT hypothetical!

At the ordinary general meeting of the British Astronomical Association, held on April 27, 1977 (and reported in BAA "Journal" Vol.87, No. 5 Aug 1977 pp 434-439)

Mr. J. Hedley Robinson, Director of the Mercury and Venus Section of the BAA, drew attention to an article which appeared in "Perspective" 5 - 4 (1963) entitled "Invasion by Washing Water". In this, Mr. D.R. Barber reported that on six occasions between 1937 and 1961, the Norman Lockyer Observatory at Sidmouth Devon, had experienced completely unexpected occurrences of an organism in the water used for photographic purposes, which rapidly liquified gelatine and resulted in major damage to photographic plates.

Unlike most observatories, the Lockyer did not use chlorinated town water and it is probably for this reason that the organism was not found elsewhere.

The bacterium has been examined and found to be of a previously unknown type, with its rapid action on gelatine and tolerance of high concentrations of toxic silver salts being the most remarkable features.

Now comes the crunch line !!

The times of occurrence of these outbreaks closely coincided WITH THOSE INFERIOR CONJUNCTIONS of Venus (i.e. those times when Venus is closest to earth and between earth and sun) which occurred co-incident with MAJOR GEOMAGNETIC STORMS.

The hypothesis is as follows:-

Venus lacks a magnetic field and therefore solar - wind particles reach its upper atmosphere in much greater numbers than on earth. Also, Venus is closer to the sun and therefore encounters more solar wind.

At times of strong solar flare activity (those times when geomagnetic storms are also strongest) the outer layers of the Cytherian atmosphere must be hit by powerful blasts of high energy solar-wind particles and this will tend to blow dust particles out of the atmosphere, in the same manner as dust and gas are blown into the tails of comets.

If there is any bacterial spore in the upper Cytherian atmosphere, this will be blown out as well, streaming away in a long invisible "tail", and, if the earth is in such a position as to pass through this "tail" (as it is at times of inferior conjunction) many spore will reach earth and possibly activate (later dying in the alien conditions?).

All this remains very speculative, but the article remarks that the observations were "not inconsistent" with an extraterrestrial origin of the micro-organisms; a verdict with which Mr. Hedley Robinson apparently concurred.

The difficulty with this theory rests upon the ability of bacteria to survive in outer space and the likelihood of a Cytherian ecology.

Neither objection need be fatal, as it appears that terrestrial bacterial spore persisted for longer periods on the moon, in a dormant state, and any organism living near the tops of the Cytherian clouds might have evolved to stand high doses of solar radiation.



The question of a Cytherian ecology, at first sight, looks doubtful, as it is hard to see how bodies of water could ever have existed on Venus and it is generally believed that life could not arise without liquid water.

Also, the composition of the Cytherian atmosphere is explicable in terms of abiotic processes; in strong contrast to that of earth, where photosynthesis has changed the atmospheric composition beyond recognition.

Thus it appears that photosynthesis (or equivalent processes) do not exist on Venus, and this seems to rule out even quite simple plant life, to say nothing of higher lifeforms. However, this need not rule out simple lifeforms not employing photosynthesis - especially if we remember that earth itself was solely populated by such micro-organisms for about 3,000,000,000 years and, even today, some continue to persist.

If I may make a suggestion, perhaps the thick atmosphere of Venus is playing the same role in the genesis of Cytherian life, as the oceans played in the genesis of terrestrial life. Perhaps volcanic or wind-blown dust, suspended in the dense atmosphere for long periods, collects organic molecules in the form of skins over each particle, in the manner hypothesized for suspended particles in the earth's primordial oceans, and maybe (under the action of UV radiation and lightning) these organic molecules have linked together into simple cells.

This is all very speculative of course, but all I want to say is that in my opinion (which may be wrong) the view that this is NOT IMPOSSIBLE should be considered. (If you think that this statement is vague and evasive, you are correct, but that's as far as I am prepared to go at the moment.)

The hypothesis may be tested by collecting and analysing rainwater after inferior conjunctions of Venus, especially after those which co-incide with magnetic storms (mostly at times of sunspot maximum). It would be interesting to determine the genetic structure of any organisms collected, as ET life would almost certainly not have the same genetic structure as terrestrial life.

This is a piece of experimental exobiology which may be performed right here on earth, maybe as early as December 1978 (the next inferior conjunction) if a good solar flare occurs then, although it may need to wait until the 1980's when the sun should be really active again.

#### A Comment on the Venus Bacteria.

by Dr. R. E. Molnar.

In response to Mr. David Seargent's speculation about the arrival of Cytherian bacteria on earth, I looked into the possibility of transport of such bacteria by the solar wind to see if they could be transported from Venus to Earth in approximately the time postulated by Seargent. A rather simple order of magnitude calculation (as is customary in physics) shows that it quite possibly could occur in the time postulated, i.e. a few days. Those of you who are interested only in this result can now skip to the last paragraph (or even the next piece).

I found from Abell (1964) that the solar wind particles often reach earth the day following their projection from the sun. This suggests a transit time of 48 hours or less. Now it should be possible for a 'wind' of this kind to accelerate a particle (the bacterium) to almost the speed of the wind itself - the question is, how long would this take? From Harwit (1970) I learned that the mean velocity of the solar wind (particles) is about 400 km sec<sup>-1</sup>. I also quite fortuitously, found in Harwit an expression relating the deceleration of a dust grain falling into a star to the density of the stellar atmosphere. Now this basically is the situation in which I was interested, however here it is the 'atmosphere' (i.e. the solar wind) which is moving and the particle (i.e. the bacterium) which is still. Well it isn't exactly still of course, it is moving with the orbital velocity of Venus, but this velocity is only rarely to the movement toward earth (directly away from the sun) I assume that the bacterium has a velocity of 0 cm sec<sup>-1</sup>.



Harwit's expression is:

$$v = \frac{dv}{dt} = - \frac{n_H m_H v^2 \pi a^2}{(4\pi/3) a^3 \rho}$$

which, translated into English, is:

$$\text{deceleration} = \text{change in velocity} = - \frac{\text{(gas) (H) (velocity)}^2 \text{(radius)}^2 \pi}{\text{density mass} \frac{(4\pi/3) \text{(radius)}^3 \text{(particle) density}}{\text{density}}}$$

The gas density term refers to the density of the solar wind (and in fact since the solar wind consists largely of charged particles, I will have to use  $n_e$  an 'electron

density' rather than  $n_H$  as given above),  $H$  mass to the mass of the hydrogen atom, and the radius and particle density to the bacterium. The whole is negative because it is for deceleration: for acceleration I simply drop the minus sign. Now for the calculation I need some numerical values.

$$v = 400 \text{ km sec}^{-1} = 4 \times 10^7 \text{ cm sec}^{-1}$$

$n_e = (\text{here } n_H) = 2 \text{ cm}^{-3}$  (i.e. two particles per cubic cm) which I shall approximate by  $1 \text{ cm}^{-3}$ , I shall also use a value of  $10 \text{ cm}^{-3}$  and  $10^2 \text{ cm}^{-3}$ , although this last is unrealistically high, a 'solar cyclone' not a solar wind.

$$m_H = 1.6733 \times 10^{-24} \text{ gm}$$

$\rho = 0.99997 \text{ gm cm}^{-3}$ , which I shall approximate by  $1.0 \text{ gm cm}^{-3}$ . This is the density of water, and bacteria are about 80% water or more (Porter, 1946) so it is simplest to use this value. And finally a photograph in Grobstein (1965) shows a bacterium that is  $1.5$  by  $0.5 \times 10^{-4} \text{ cm}$  in size, so I shall use the average of these,  $1.0 \times 10^{-4} \text{ cm}$  as the radius.

The results of these calculations are:

<u>acceleration</u>	<u><math>n_H</math> (density of solar wind)</u>
$10^{-5} \text{ cm sec}^{-2}$	$1 \text{ cm}^{-3}$ (usual density)
$10^{-4} \text{ cm sec}^{-2}$	$10 \text{ cm}^{-3}$ (during solar flare (?))
$10^{-3} \text{ cm sec}^{-2}$	$10^2 \text{ cm}^{-3}$ (too high)

That is, at best the bacterium would pick up  $0.003 \text{ cm}$  per sec in speed every second, which sounds rather slow, especially when you remember that at minimum it would have to travel  $41 \times 10^6 \text{ km}$  ( $= 41 \times 10^{11} \text{ cm}$ ) to reach earth from Venus. However, remember that a bacterium has low mass and would be continuously accelerated. At an acceleration of  $10^{-5} \text{ cm sec}^{-2}$  the bacterium would reach earth in about  $10^5 \text{ sec}$ , which is about 3 to 4 months. For an acceleration of  $10^{-4} \text{ cm sec}^{-2}$  it would take  $10^4 \text{ sec}$ , or about a day, and for  $10^{-3} \text{ cm sec}^{-2}$  (which is most realistic) it would take about  $10^3 \text{ sec}$ , or about a week and a few days. This rough calculation suggests that a strong gust could do it in about the time suggested by Seargent, and that if the bacteria left Venus shortly before the conjunction, they could arrive on earth at or shortly after the conjunction.

Now there are a number of other points yet to be resolved with which I have not (and will not) be concerned. These are: correspondances between conjunctions with Venus and strong solar flares; the direction in which the wind need be moving in order to bring the bacteria to earth rather than 'blow' them out who-knows-where; and whether bacteria could survive the energetic particles and intense radiation of interplanetary space.

I suspect all of these but the last may be easily resolvable, and some bacteria survive in strange environments (such as aircraft petrol tanks), but on the other hand radiation can be used as a bactericide so this would be the main point needing investigation.

G. Abell, 1964, EXPLORATION OF THE UNIVERSE, New York: Holt, Rinehart & Winston 646 pp.

C. Grobstein, 1965, THE STRATEGY OF LIFE, San Francisco: W.H. Freeman, 118pp.

M. Harwit, 1970, ASTROPHYSICAL CONCEPTS, New York: John Wiley & Sons, 561 pp.

J. R. Porter, 1946, BACTERIAL CHEMISTRY AND PHYSIOLOGY, New York: John Wiley & Sons, 1073 pp.

#### U.F.O.?

As I was walking in the cool night air, I saw a UFO that wasn't there. It wasn't there again today. Oh how I wish it'd go away.

#### A.C.O.S. NEWS.

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#### Foreign Languages.

As all our member organisations are well aware of, ACOS is growing at a rather rapid rate and is becoming known world-wide. Every now and then, we receive letters and/or articles written in foreign languages. Could you therefore make enquiries amongst your members as to who can translate foreign languages and inform ACOS, if they would be prepared to translate items from time to time. We could then pass on any overseas items to all the groups. This would be greatly appreciated.

#### New Notices.

Please don't forget to use the new forms accompanying the reports sent to ACOS, which were distributed at UFOCON 3 last November. These forms are to be used from 1-1-1978. Computer File Data Sheets need only be filled in for unidentified reports from 1-1-78.

#### Photographic Analysis.

Your attention is directed towards the fact that photographs of any unusual objects may be forwarded to Frank Gillespie, the ACOS photographic consultant for analysis.

If Frank considers the photograph worthy of further attention then ACOS will arrange to forward the photo to Ground Saucer Watch Inc. in the USA for computer processing and analysis. UFO Research (SA) Inc. have already had one such photo processed with the results that the object in question was found to be a bird (see their Newsletter no. 28). With the equipment available to GSW they have looked at some 900 "UFO" shots and passed only 30 as seemingly genuine.

The only way to verify a photo is to get it checked, so please use ACOS scientific consultants.

#### NEW Exchange group.

ACOS has recently began corresponding with a West German group known as CENAP. Agreements regarding the exchange of information as well as correspondence have been reached. CENAP will keep us informed as to what is happening in West Germany, and we in place will advise them as to activity in Australia. They further report that West Germany has a number of smaller groups which work alone, and any attempt so far as to organising a setup similar to that of ACOS in Australia have so far failed. We'll report more on CENAP in our next issue of the Bulletin.



UFO REPORTS FROM AROUND AUSTRALIA.

ND 77001 17th April 1977 0430 CE1. K. Blackman.

Mr. F. Eames, 36, was sitting in his loungeroom having a cup of tea prior to a fishing trip, when he noticed a large light moving slowly, too slow for a plane, so he went outside to the front porch to take a closer look. There was no sound whatever. The object he saw is described as cigar shaped, estimated to be about 40 feet in length, with glowing, shimmering edges. There seemed to be 3 dark portholes along the object. Estimated speed was 10 MPH.

ND 77002 18th April 1977 0430 CE1. K. Blackman.

On the following morning to the above report, Mr. L. South, drove his truck at Laurieton near Port Macquarie NSW, and upon stopping and getting out of his truck, he noticed a white light ascending over sand dune 150 yards away. He stood there quite frightened for a while, watching the object move across the top of the dunes coming towards him. When the object was about 30 yds., from him, he ran towards his truck and the object stopped momentarily, then moved back towards the beach, where it descended over the dunes. Mr. South stood up onto the cab of his truck, where he saw the object travelling with increasing speed out to sea a few feet over the water. The object illuminated the water. About 1 mile in a SE direction, object climbed very rapidly and 30 seconds later it was about as bright as an average star. 1 minute later, object had disappeared, in S direction. Object estimated to be 50 feet diameter, bright white, no openings.

TA 77078 22 June 1977 0535 N.L. TUFOIC.

A woman was going out the back door to leave for work, notices bright glow over hillside. Then a very bright white light rises up from behind the hill into the sky before turning south and moving slowly off. Witness attempts to take photographs. Calls 10 year old daughter to see light before leaving for work.

TA 77085 23 June 1977 1930 CE1 TUFOIC.

A 29 year old woman and her 3 year old son travelling S on Campania Rd to Richmond Tasmania, about 1.6 KM north of the town when, after telling son about aircraft lights he says there is another one. Woman sees pinkish light low over town, it is flashing and has distant hills behind it. As approaches town, light appears to move back to the south but becomes stationary over central block, witness pulls up and observes object through open window. About 100 m from object which is 100 m up above ground. Roughly rectangular shape with rounded corners, the flashing light being in the middle. Estimated length 3 mts, height 1 meter. It seemed to just float there. After few minutes, women decided to drive around block hoping to see other side of object, and find other witnesses. As soon as she moved off, object moved off to the NW in level flight, no sound, it was out of sight in 30 seconds.

TA 77109 29 July 1977 1330 D.D. TUFOIC.

A woman, her daughter and 2 grandchildren were travelling north on the Midland Highway when between Conara & Epping Forest, Tasmania, the woman saw an object maintaining position with the car at low to the right(east). She was sitting in the front passenger seat, her daughter driving, the 2 children apparently took no notice of the object. It was bright silver cylinder moving in an upright position, hanging from the bottom of the cylinder with a smoke haze all around it seemed to have a "frayed rope". The witnesses were in a hurry to get to their destination and did not think of stopping. Object was below cloud level, clouds probably not much over 1200 meters. When they reached Epping Forest 10 to 12 KM after first seeing the object, it was lost to view behind trees and not seen again.

TA 77127 July 1975 2130 CE2 TUFOIC.

A family of 4 were travelling home east on Tasman Highway in their 186 Holden at 100 KPH. They just passed Hobart Airport turnoff about 30 KM east of Hobart. It was a cold dark, clear night. At first the car became hot within a few seconds (interior). Nothing seen at this stage, then car stalled and rolled to a halt just beyond a couple of houses on the south side of road. The family could taste the odd gas but not smell anything. At this stage an object was noticed over the middle of the road ahead. It was estimated at 20 meters elevation, 200/300 meters distant and stationary. The object was silent and round, it looked a white/grey colour, seemed metallic like or with an iridescence of its own a sort of glow. The object was estimated about the same width as the road, possibly 5 meters. The parents became disturbed and the children frightened asking what it was. The car remained stationary for 2 minutes whilst they just stared at the object. It seemed to have an appendage below, looked like a line and a squiggle. Suddenly the object took off extremely fast, spiralling up and away to the S or SW. The husband, a mechanic by trade got out and lifted the bonnet but could find nothing wrong so they continued on the few kilometers home. The object was viewed at a few times and on arriving home they saw it SSW high in the sky as a diminishing light passing briefly in front of wispy clouds.

#### Analysis of Soil Samples from Karawinna Victoria.

Three soil samples from an area reported to have been effected by a UFO on 25th September 1976 have been analyzed by ACOS's Scientific Consultant, principally by thermoluminescence. Although the sample from the centre of the effected area showed a slightly higher thermoluminescence than the sample from the edge or from well outside the affected region (corresponding to about 100 rads of  $\gamma$  irradiation) it is concluded that this difference may have a natural cause. Further tests may resolve the uncertainty.

More meaningful analyses can be carried out if more attention is devoted to documenting and sampling sites. Suggestions on how to sample for thermoluminescence and other chemical analyses are given in the ACOS Bulletin, September 1977.

Experiments carried out with the samples were as follows.

1. RADIOACTIVITY. (on an EMI Hand and Clothing Monitor type 1. No response was observed from any sample.
2. EMISSION SPECTROSCOPY. No unusual features the only difference is a trace of lead detected in the control sample.
3. QUANTITATIVE ANALYSIS. All samples were analysed for the naturally radioactive elements, uranium, thorium & potassium, all 3 samples showed virtually the same concentration of these elements. Normal.
4. THERMOLUMINESCENCE.
  - (a) Con-Rad Model 5100B. A significant difference between the sample from the edge and the one well outside the circle was only noted at the slow heating rate (which gave a lower ultimate temperature as the Con-Rad instrument operates on a fixed-time cycle.
  - (b) Harshaw 2000A. There are too few results for a statistical comparison but it appears that the Thermoluminescence peak height of the sample from the centre of the circle is generally higher than that from the edge or from outside. There is no substantial difference in the peak temperatures among the various samples.
5. EFFECT OF ARTIFICIAL IRRADIATION. Although not enough material was available to fully characterize the thermoluminescence sensitivity of the quartz to  $\gamma$  rays it would appear that the natural thermoluminescence in these materials correspond to only about 500 rad.